

A. * EMERGENCY PROCEDURES ***DISTRESS CALLS**

The distress call has absolute priority over all transmissions and need not be addressed to any particular station. Any mariner hearing a distress call shall immediately cease all transmissions capable of interfering with the distress message and shall continue to listen on the frequency on which the call was heard.

If your vessel is in distress and abandonment is necessary, activate your EPIRB and take it with you. If you do not have an EPIRB, the radio transmitter should be set for continuous emission to provide rescue vessels and aircraft with a homing signal.

DISTRESS MESSAGE FORMAT

Speak slowly and clearly... Call: "MAYDAY, MAYDAY, MAYDAY, THIS IS (vessels call sign and name repeated THREE times). Then follow with the following situational information.

Example: "MAYDAY, MAYDAY. MAYDAY, THIS IS THE SAILING VESSEL *SUNSHINE*, THE SAILING VESSEL *SUNSHINE*, THE SAILING VESSEL *SUNSHINE*."

Give the following information:

- **WHO** you are (vessels call sign and name).
- **WHERE** you are (Your position in Latitude /Longitude from the chart or GPS, LORAN lines, or a bearing and distance from a widely known geographical point.)
- **WHAT** is wrong (nature of distress or difficulty).
- The **KIND** of assistance desired.
- The **NUMBER** of persons aboard and condition of any injured.
- Present seaworthiness of your vessel.
- **DESCRIPTION** of your vessel - length, type, cabin, mast, power, color of hull, superstructure and trim.
- Your listening radio frequency. It's important to make a communications schedule.
- Survival equipment available (i.e., rafts, survival suits, EPIRB, etc.).

ENSURE EVERYONE ON BOARD PUTS ON A LIFEJACKET (PFD)**GOOD SAMARITAN**

The Federal Boat Safety Act of 1971 contains a "Good Samaritan" clause stating:

"Any person who gratuitously and in good faith renders assistance at the scene of a vessel collision, accident, or other casualty without objection of any person assisted, shall not be held liable for any act or omission in providing or arranging salvage, towage, medical treatment, or other assistance where the assisting acts as an ordinary, reasonable prudent man would have acted under the same or similar circumstances."

IF YOU OBSERVE ANOTHER VESSEL IN DISTRESS**Give the following information:**

- Your position, and the bearing and distance to the vessel in distress.
- Nature of distress if known.
- Description of the vessel in distress (color, length, power or sail, etc...)
- Your course and speed, etc.
- Will you be assisting the distressed vessel?
- Repeat your radio call sign and the name of your vessel, and give your listening frequency and schedule.

If you need INFORMATION or ASSISTANCE from the Coast Guard (when not in distress) call the Coast Guard on channel **16 VHF-FM (156.8 MHz)** or **2182 kHz HF**. You will then be instructed to turn to a common working frequency allowing the DISTRESS frequencies to remain open.

PROPER USE OF DISTRESS, URGENT AND SAFETY SIGNALS

Several instances have been reported of vessels calling MAYDAY to report they were out of gas, lost, or having engine trouble. When questioned, they explained they were not in immediate danger. The use of MAYDAY in this way violates Federal Communications Commission (FCC) regulations because it tends to degrade the importance of this

signal. (In the interest of maritime safety it is imperative that all mariners familiarize themselves with the proper use of radiotelephone signals authorized for the different situations they may encounter). The following is taken from these regulations.

DISTRESS SIGNALS: The radiotelephone distress signal consists of the word **MAYDAY** spoken three times. This signal indicates that a marine mobile station is threatened by **GRAVE AND IMMINENT** danger and requests immediate assistance.

URGENT SIGNAL: The radiotelephone urgent signal consists of the three repetitions of the word group **PAN- PAN** (rhymes with CONN). This signal indicates that the calling station has a very **URGENT** message to transmit concerning the safety of a ship, aircraft or other vehicle, or the safety of a person.

SAFETY SIGNAL: The radiotelephone safety signal consists of the word **SECURITY** spoken three times. This signal indicates that the station is about to transmit a message concerning the **SAFETY** of navigation or giving important meteorological warnings.

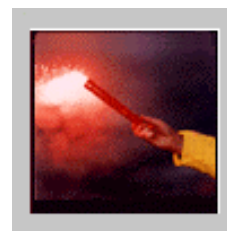
HOAX DISTRESS CALLS

A HOAX distress call is a deadly serious offense. Hoax calls not only put the lives of Coast Guard personnel at risk, but also take valuable search and rescue assets away from real emergencies, endangering the lives of innocent people. Calling MAYDAY on the radio in order to get a radio check is considered a hoax. The First District Commander intends to prosecute to the full extent of the law violators who make HOAX distress calls.

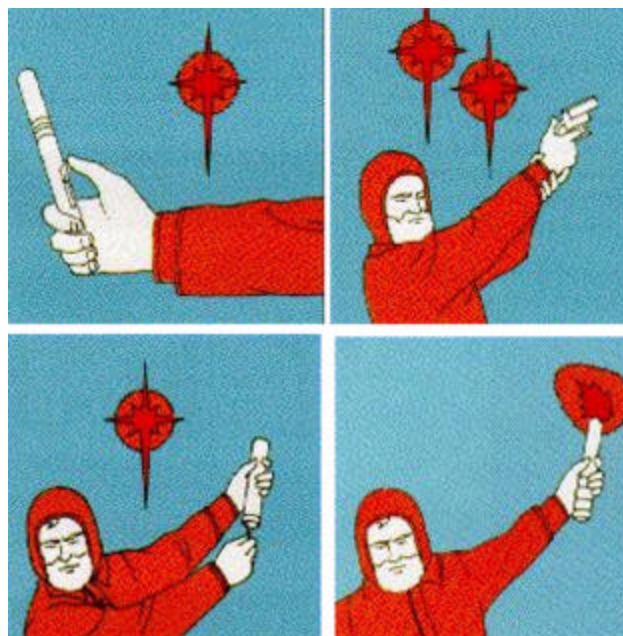
Every hoax, including MAYDAY radio checks, is subject to prosecution as a Class D **felony** under Title 14, U.S. Code, Section 85. Criminal penalties authorized for those found guilty of a hoax include a maximum of **SIX** years in prison and up to a \$250,000 fine. Civil penalties of up to \$5,000 are permitted. Violators are also liable for costs the Coast Guard incurs as a result of the individual's actions. The Coast Guard and the Federal Communications Commission (FCC) will work closely together, using FCC equipment for identifying the electronic signature of the offending radio. The public's help is welcome in achieving the goal of removing hoax calls from the airways.

VISUAL DISTRESS SIGNALS (VDS)

All recreational boats 16 feet and over (with certain exceptions), or any boat carrying 6 or less passengers (for hire) on the coastal waters of the United States are required to carry Coast Guard approved VISUAL DISTRESS SIGNALS (VDS). Boats less than



16 feet are not required to have signals for day, but must have signals that can be used at night, between sunset and sunrise. Several types of approved signals are available, but only one type for day and one type for night, in the number indicated, are required.



GOOD FOR BOTH DAY AND NIGHT USE

- Pistol projected parachute flare (red) - **3 required**
- Hand held rocket propelled parachute flare (red) - **3 required**
- Aerial pyrotechnic flare (red) - **3 required**
- Hand held flare (red) - **3 required**

DAY USE ONLY

- Floating orange smoke distress signal - **3 required**
- Hand held orange smoke distress signal - **3 required**
- Orange flag - **1 required**

NIGHT USE ONLY

- Electric distress lantern for boats - 1 required
- For signals that require the use of a launching device, the launcher must also be Coast Guard approved.
- The following persons need not comply with day signal carriage requirements; however, each must carry suitable night signals in the numbers required:
 - A person competing in any organized parade, regatta, race or similar event.
 - A person using a manually propelled boat.
 - A person using a sailboat of completely open construction not equipped with propulsion machinery, less than 26 feet in length.

It is clear that these signals may be all that stands between safety and disaster. The Coast Guard recommends that these signals be carried aboard your vessel and stowed in a safe but readily accessible location. VDS are usable for three years from the date of manufacture (stamped on the signal) and should be properly disposed of and replaced by new VDS after this date.

REQUEST FOR MEDICAL ADVICE AND MEDICAL EVACUATION INFORMATION

Free medical advice is made possible through the cooperation of governmental and commercial radio stations whose operators receive and relay messages from vessels at sea, and also transmit medical advice back to the vessels. Requests for medical advice or personnel evacuation from vessels not using coastal radio stations should be made to the nearest Coast Guard facility.

The final decision for medical evacuation (MEDEVAC) from a vessel rests with the Coast Guard Operations Center and is based on expert medical evaluation of symptoms by a Coast Guard Flight Surgeon.

Removal of personnel from vessels is limited to **EMERGENCY SITUATIONS AND CAN BE UNDERTAKEN BY THE U. S. COAST GUARD ONLY WHEN MEDICALLY INDICATED.** There are times when evacuation may be more injurious or dangerous to the patient than leaving the patient aboard until arrival at the next port. There is of course, no restriction on the independent action by the master based on his own initiative or private medical service.

The following information must be supplied by the vessel to the Coast Guard:

- Vessel's name and call sign.

- Vessel's position.
- Vessel's course, speed, next port of call and estimated time of arrival (ETA).
- Patient's name, nationality, age, and sex.
- Patient's respiration, pulse, and temperature.
- Patient's symptoms and nature of illness.
- Any known history of similar illness/es.
- Location and type of pain.
- Medical supplies carried aboard the vessel.
- Medication given to patient.
- On scene weather
- Communications schedule and frequency.

HELICOPTER EVACUATION PROCEDURES

The following information is prescribed by the Coast Guard during helicopter evacuation from a vessel. If you have a radio aboard, further instructions may be given by the helicopter on the voice distress frequency.



Provide a clear area, preferably on the stern. Lower all masts, booms, flag staffs, antennae, etc. Keep unnecessary personnel out of the way. When the helicopter arrives in your area, change course so as to place the wind thirty degrees off the port bow and continue at a moderate speed. The helicopter will provide all required equipment. If a stretcher is required, the helicopter will lower one specially rigged for hoisting.

ALLOW THE BASKET OR STRETCHER TO TOUCH YOUR VESSEL PRIOR TO HANDLING IT TO AVOID STATIC ELECTRIC SHOCK. DO NOT HOOK, TIE OR OTHERWISE ATTACH THE HOIST CABLE TO YOUR VESSEL.

If the basket is used, strap the patient in, face up. In addition, if his condition permits, the patient should be wearing a PFD and his hands should be clear of the sides. When the basket or stretcher is ready to hoist, signal the hoist operator by a "thumbs up" signal.

To use radio distress signals via radiotelephone, set equipment to distress and calling frequency 2182 kHz or VHF Channel 16 (156.80 MHz) and transmit the spoken word "MAYDAY" repeated three times followed by "this is" and the name of the vessel repeated three times. Do not wait for acknowledgment. Continue by stating the nature of the distress; the kind of assistance desired, the position, and any other information that might facilitate the rescue. Wait a few moments for acknowledgment. If none, then repeat the entire distress message until acknowledged. Speak the message clearly and slowly. Non-acknowledgment is not definite indication that someone did not receive the message.

AIR-SEA RESCUE PROCEDURES

VIDEOTAPE

University of Rhode Island and the U.S. Coast Guard

An air-sea rescue is a tricky maneuver at best. Unfortunately, in many cases, the people being rescued compound the difficulty and danger because they do not understand rescue procedures. In this educational video, Coast Guard personnel demonstrate several rescue techniques and give step by step instructions for those being rescued.

Procedures covered in the video are:

- Delivery of equipment (such as pumps and medical supplies) or personnel from a helicopter to a vessel.
- Evacuation of people from the water or rafts to a helicopter.
- Medical evacuation of a sick or injured person from a boat to a helicopter.

The video is approximately 20 minutes long and costs \$15.00. Contact the Sea Grant Information Office of URI at (401) 874-6842.

SHIP ABANDONMENT AND HYPOTHERMIA

If you are involved in a ship casualty and are forced to abandon ship, your survival procedure should be pre-planned, thereby increasing your chances for a successful rescue. Records show that a sinking, even in the worst cases, usually require at least 15 to 30 minutes for the vessel to fully submerge. This affords valuable time for preparation. Here are some pointers for you to remember in a situation of this type:

- Put on as much warm clothing as possible, making sure to cover head, neck, hands and feet.
- If an immersion (exposure) suit is available put it on over warm clothing.
- If an immersion (exposure) suit does not have inherent flotation put on a PFD and be sure to secure it correctly.
- All persons who know that they are likely to be affected by seasickness should, before or immediately after boarding the survival craft, take some recommended preventative tablets or medicine in a dose recommended by the manufacturer. The incapacitation caused by seasickness interferes with your survival chances; the vomiting removes precious body fluid while seasickness in general makes you more prone to hypothermia.
- Avoid entering the water if possible. Board davit-launched survival craft on the embarkation deck. If davit-launched survival craft are not available, use over side ladders, or if necessary lower yourself by means of a rope or fire hose.
- Unless it is unavoidable do not jump from higher than 5 meters (16.4 ft) into the water. Try to minimize the shock of sudden cold immersion.
- Rather than jumping into cold water, try to lower yourself gradually. A sudden plunge into the cold water can cause rapid death or an uncontrollable rise in breathing rate that may result in an intake of water into the lungs. On occasion it may be necessary to jump into the water; if so, you should keep your elbows at your sides, cover your nose and mouth with one hand while grasping the wrist or elbow firmly with the other hand.



- Once in the water, whether accidentally or by ship abandonment, orient yourself and try to locate the ship, lifeboats, life rafts, other survivors or other floating objects. If you were unable to prepare yourself before entering the water, button up clothing now. In cold water you may experience violent shivering and great pain. These are natural body reflexes that are not dangerous. You do, however, need to take action as quickly as possible



before you lose full use of your hands; button up

HYPOTHERMIA CHART		
If the Water Temp (F) is:	Exhaustion or Unconsciousness:	Expect Time of Survival is:
32.5	Under 15 min.	Under 15-45 minutes
32.5-40.0	15 - 30 min.	30 - 90 min.
40 - 50	30 - 60 min.	1 - 3 hours
50 - 60	1 - 2 hours	1 - 6 hours
60 - 70	2 - 7 hours	2 - 40 hours
70 - 80	3 - 12 hours	3 - Indefinitely
over 80	Indefinitely	

clothing, turn on signal lights, locate whistle etc.

- While afloat in the water, do not attempt to swim unless it is to reach a nearby craft, a fellow survivor, or a floating object, on which you can lean or climb. Unnecessary swimming will "pump" out any warm water between your body and the layers of clothing, thereby increasing the rate of body-heat loss. In addition, unnecessary movements of your arms and legs send warm blood from the inner core to the outer surface of the body, resulting in very rapid heat loss. Hence it is most important to remain as still as possible in the water, however painful as it may be. Remember that pain will not kill you, but heat loss will!
- The body position you assume in the water is also very important in conserving heat. Float as still as possible with legs together, elbows close to sides, and arms folded across the front of your PFD. This position minimizes the exposure of the body surface to the cold water. Try to keep your head and neck out of the water.
- Another heat conserving position is to huddle closely with one or more persons afloat, making as much body contact as possible. You must be wearing a life vest to be able to hold these positions.
- Try to board a lifeboat, raft or other floating platform or objects as soon as possible in order to shorten your



immersion time. Remember that you lose body heat many times faster in water than in air.



- Since effectiveness of your insulation is seriously reduced by water soaking, you must try to shield yourself from wind to avoid a wind chill effect (convective cooling). If you manage to climb aboard a lifeboat, shielding can be accomplished with the aid of a canvas cover or tarpaulin, or an unused garment. Huddling close to the other occupants of the life raft or boat will also conserve body heat.
- Do not use "drown proofing" in cold water. "Drown proofing" is a technique whereby you relax in the water and allow your head to submerge between breaths. It is an energy saving procedure to use in warm water when you are not wearing a PFD. However, the head and neck are high heat loss areas and must be kept above the water. That is why it is even more important to wear a PFD in cold water. If you are not wearing a PFD, tread water only as much as necessary to keep your head out of the water.
- Keep a positive attitude about your survival and rescue. This will improve your chance of extending your survival time until rescue comes. Your will to live does make a difference

SUBMARINE EMERGENCY IDENTIFICATION SIGNALS

U.S. submarines are equipped with signal ejectors that may be used to launch identification signals, including emergency signals. Two general types of signals may be used: smoke floats and flares or stars. A combination signal that contains both smoke and flare of the same color may also be used. The smoke floats, which burn on the surface, produce a dense colored smoke for a period of 15 to 45 seconds. The flares or stars are propelled to a height of 300 to 400 feet from which they descend by small parachute. The flares or stars burn for about 25 seconds. The color of the smoke or flare/star has the following meaning:

- **Green or Black** - Used under training exercise conditions only to indicate that a torpedo has been fired or that the firing of a torpedo has been simulated.
- **Yellow** - Indicate that a submarine is about to come to periscope depth from below periscope depth. Surface craft clear vicinity of submarine. Do not stop propellers.
- **Red** - Indicates an emergency condition within the submarine and that it will surface immediately, if possible.

Surface ships clear the area and stand by to give assistance after the submarine has surfaced. In case of repeated red signals, or if the submarine fails to surface within reasonable time, she may be assumed to be disabled. Buoy the location or take loran readings immediately, look for submarine buoy and attempt to establish communications. Advise Coast Guard or U.S. Naval authorities immediately.

Submarine Marker Buoys consist of a cylindrically shaped buoy about 3 x 6 feet with connecting structure and is painted International Orange. The buoy is attached to the submarine with a wire cable that acts as a downhaul for a rescue chamber. The buoy may be accompanied by an oil slick release to attract attention. A submarine on the bottom in distress and unable to surface will, if possible, release this buoy. If an object of this description is sighted, it should be investigated and Coast Guard and U.S. Naval Authorities advised immediately.

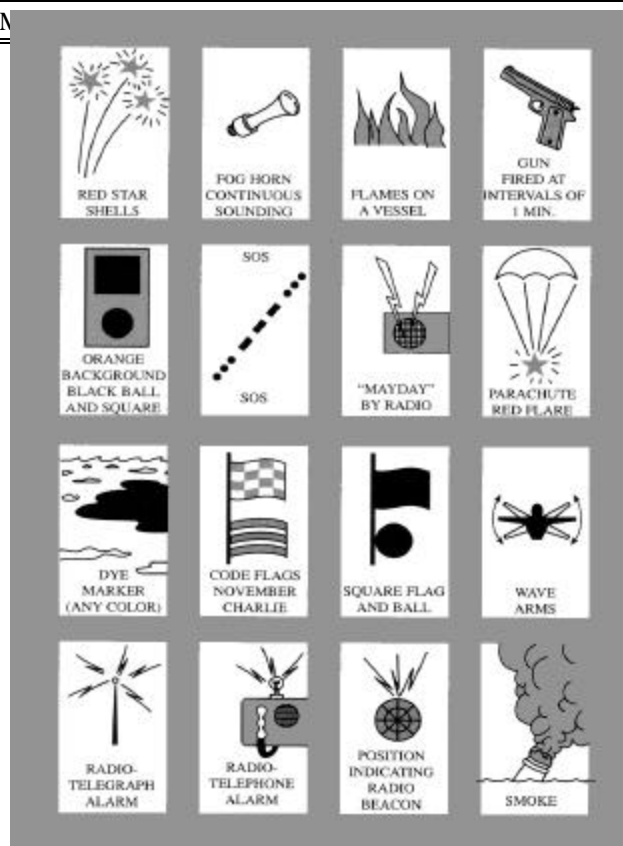
Submarines may employ any or all of the following additional means to attract attention and indicate their position while submerged: release of dye marker; release of air bubble ejection of oil and pounding on hull.

INTERNATIONAL DISTRESS SIGNALS

All boaters should be familiar with the international distress signals and procedures, both for recognition purposes and for self-help in the event of distress. Short-range distress signals limited to range of visibility or audibility are:

- "SOS" signal, (dot dot dot, dash dash dash, dot dot dot) made by any audio or visual means.
- International Code of Signals "NC".
- Hoisting any square flag with a ball or anything resembling a ball, above or below it.
- Flames made visible (as a burning oil barrel).
- A rocket parachute flare or hand held flare showing a red light.
- Rockets or shells, throwing red stars fired at intervals of about one minute.
- Orange smoke distress flare.
- A gun or any other explosive signal at one minute intervals.
- A continuous sounding of any fog-signal apparatus.
- Slowly and repeatedly raising and lowering arms outstretched to each side.
- Signals transmitted by Emergency Position-Indicating Radio Beacons (EPIRB).

SEARCH AND RESCUE SATELLITE AIDED TRACKING (SARSAT)



Search and Rescue Satellite Aided Tracking (SARSAT) is an international cooperative effort using satellites to detect distress beacons. Combined with COSPAS, the USSR's similar and inter-operable system, it forms the COSPAS-SARSAT system. The system is composed of polar orbiting satellites, distress beacons operating on 121.5 and 243.0 MHz carried by aircraft and marine vessels and a ground network. This provides an alert of a distress and its position that will be relayed to the appropriate Rescue Coordination Center.

EMERGENCY POSITION INDICATING RADIOBEACON (EPIRB)

The Emergency Position Indicating Radiobeacon (EPIRB) is an inexpensive self-activating device for maritime distress detection. The following is an overview of the two classes of EPIRBs currently in existence for marine use.

121.5 MHz EPIRBs

EPIRBs operating at a frequency of 121.5 MHz were designed for detection by aircraft, before satellite availability. When satellites became available, technology was developed to accommodate the large number of existing bea-

cons, although the frequency (121.5 MHz) was not well suited to the application. 121.5 MHz EPIRB signals can be processed only when a satellite can "see" both the transmitting beacon and a ground station at the same time. The effective radius of a ground station is about 1800 nautical miles. The Gulf of Mexico, the Atlantic Ocean off the southeast U.S., and much of the Caribbean Sea are covered. Outside coverage areas, you are dependent on passing highflying aircraft to detect and report your signal.

121.5 MHz EPIRB positions are usually accurate to within less than 20 nautical miles. Because of the tremendous volume of noise on 121.5 MHz, the vast majority of 121.5 "first alerts" are not acknowledged as distress. Multiple alerts (over the course of three to six hours) and/or independent corroboration is necessary to warrant a response.

406 EPIRBs

The new system is nicknamed the "406" after its operating frequency, 406.025 MHz, which is reserved exclusively for EPIRB use. Satellites can store 406 EPIRB signals, giving this system true global coverage. In addition, it provides rescuers with other important information, particularly the identity of the EPIRBs owner.



First alerts are evaluated as distress and warrant immediate response. 406 MHz EPIRB positions are accurate within three nautical miles. Each has a unique identifying code. Each owner of a 406 MHz is required to complete their registration data card and submit it to National Oceanic and Atmospheric Administration (NOAA). If this information is not provided and your vessel becomes distressed, a rescue response team may be delayed while trying to get this information.

The following is an overview of the two classes of EPIRBs for marine use:

- Class: A Frequency: VHF-AM, 121.5/243.0 MHz Regulation: Float free; required on inspected U.S. flag vessels whose route is more than 20 miles from a harbor of safe refuge. Detection: SARSAT and high altitude aircraft.
- Class: B Frequency: VHF-AM, 121.5/243.0 MHz Regulation: Voluntary for vessels more than 20 miles off the coast. Detection: SARSAT and high altitude aircraft.
- Class: C Frequency: VHF-AM, Channel 16/15 Regulation: Voluntary not for use by vessels more than 20

miles off U.S. shore. Detection: stations guarding channel 16 only no detection.

- Class: Cat I Frequency: 406 MHz & 121.5 MHz (homing) Regulation: Float free, specified in Coast Guard carriage rules. Detection: SARSAT.
- Class: Cat II Frequency: 406 MHz & 121.5 MHz (homing) Regulation: Manually activated. Detection: SARSAT.
- Class: Cat III Frequency: 406 MHz & 121.5 MHz Regulation: Manually activated, voluntary use, usable above 32 degrees Fahrenheit only. Detection: SARSAT.

FALSE ALARMS

The international satellite system for EPIRB/ELT detection is directly affected by the time that must be dedicated to tracking down sources of false alarms. Each distress signal received must be tracked down - whether it is an actual emergency or a false alarm. False alarms hamper the search and rescue system not only by diverting limited search resources, but also by interfering with or completely masking true distress signals. (The high false alarm rate of the 121.5/243 MHz beacons is one reason why the U.S. Coast Guard so strongly promotes the use of the 406 EPIRB.)

False alarms are caused by unintentional activation of the beacon through improper handling; equipment failure; or incorrect mounting, disposal, testing or shipment. Mariners can assist in the reduction of the false alarm rate in a number of ways.

- Add an EPIRB check to all "shut-down" checks.
- Monitor the 121.5/243 MHz channel (if capable), prior to departing the craft to ensure the beacon is not transmitting.
- Avoid unnecessary use of the emergency channels for voice transmissions.
- Remove battery before storage, shipment or disposal of an ELT or EPIRB or prior to long vessel maintenance periods.
- Ensure the beacon is properly mounted and stowed.

During course of daily maintenance checks underway (particularly in rough weather), ensure beacon is still mounted and has not accidentally energized. Purchasers can voluntarily register vessel, communication capability, survival gear, and shore side point of contact and other vital information. If registered, this data is printed out automatically when alert information is received at the appropriate Rescue Coordination Center (RCC).

Testing and maintenance of the 406 MHz EPIRB should be done in accordance with the manufacturer's instructions. The following is a list of operating hints for the 406 MHz EPIRB devices:

- Make sure you register your EPIRB with NOAA as soon as possible.
- Correctly mount EPIRB according to manufacturer's instructions.
- Keep it clear of obstructions.
- Maintain EPIRB accordingly. Have batteries serviced and hydrostatic releases changed at the regularly scheduled intervals.
- Test the unit monthly.
- Keep the EPIRB in the "Ready" or "Armed" position. NEVER turn unit OFF while underway!

REGISTRATION OF 406 MHz EPIRBs

Historically, their owners register only about 70% of all 406 MHz EPIRBs. Therefore, the major advantages of using this type of device are lost to 30% of all users. Proper registration of your 406 MHz satellite EPIRB may save your life as well as you from possible violations and fines of up to \$10,000 in cases of false activation due to hoax or gross negligence. Registration data also includes points of contact including the vessel owner as well as several alternate people the Coast Guard can contact when a distress signal is received.

An attempt will be made to verify a signal's authenticity and to obtain as much information on the vessel as possible prior to mounting a full-scale search and rescue mission. Information regarding the vessel type, communications equipment aboard, radio call sign, documentation or registration number, home port, and normal berthing areas are kept on file to assist search and rescue personnel. To register your 406 MHz EPIRB free of charge please contact:

NOAA/NESDIS
SARSAT Operations Division E/SP3
Federal Office Building 4, Room 3320
Washington, DC 20233
(301) 457-5678

All EPIRBs registered with NOAA will be issued a dated decal. This provides proof of registration and includes a unique 15 character hexadecimal code, registration expiration date, and the vessel's eight-digit registration code.

In addition to registering your 406 MHz EPIRB or your 121.5 MHz EPIRB with NOAA, you must also add the

EPIRBs to your ship radio license as per FCC regulations. A 406 MHz Satellite EPIRB Registration and Identification Card can be found at the end of this section for your use.

TESTING EPIRBs & MAINTENANCE

Testing for 121.5/243 MHz beacons is restricted to five minutes after the hour (example: 0000-0005). Testing 406 MHz beacons may be conducted at anytime since the "TEST" position is only used, the "ON" position is never used for testing. Any "hit" from a 406 MHz beacon adds to the burden of tracking false alarms. The "TEST" position will not cause a false alarm.

The presence of a signal on 121.5/243 MHz EPIRB can be verified with a simple portable FM or AM radio.

A FM radio tuned to 99.5 MHz will pick up a 121.5 MHz EPIRB transmission, provided no local FM station is broadcasting on that frequency. 121.5 MHz is the local oscillator image frequency of 99.5 MHz for most FM radios. The radio can be used to detect a 121.5 MHz signal since low cost FM radios don't have good image suppression circuitry. A FM radio should be able to pick up a 121.5 MHz EPIRB at a distance of up to one half mile.

Any cheap, portable AM radio can pick up an 121.5 MHz EPIRB signal at a distance of up to about six inches, on any frequency. A spectrum analyzer is used for a more sophisticated coherency test.

The licensed operator of a vessel shall make sure that each EPIRB (other than an EPIRB in an inflatable life raft) is tested monthly, using the visual or audible output indicator to determine that it is operative. And has had its battery replaced on or before the marked expiration date and immediately after any use, other than testing.

COMMERCIAL ASSISTANCE

The U.S. Coast Guard no longer is required to maintain a referral list of commercial firms considered qualified to render certain forms of routine assistance to boaters in non-emergent situations. The local Coast Guard Commander **does not** inspect any firms in his specific area of responsibility to ensure their capability of handling routine non-emergent requests for assistance. Disabled boats in non-emergency situations should contact the nearest Coast Guard Station by VHF-FM radio channel 16 to report their status. In these situations, the Coast Guard will respond at the earliest possible time by issuing a Marine Assistance Radio Broadcast. The terms and arrangements for any form of commercial assistance, however, remains the responsibility of the boater and the commercial firm

involved. **THE COAST GUARD WILL CONTINUE TO RESPOND TO ALL EMERGENCIES.**

COAST GUARD DROP PUMP

The standard Coast Guard drop pump is capable of rapid delivery. It may be dropped by parachute from Coast Guard aircraft or passed by line from boat to boat. The pump is totally self contained within an aluminum watertight container with a 1 gallon gas can, 15 feet of suction hose, 20 feet of discharge hose, an explosion proof flashlight, starter rope, priming bucket and **complete instructions for use**. The pump is rated at 140 gallons per minute at a 10-foot head.

